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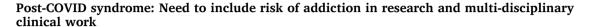
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## Letter to the Editor





Since the outburst of the spread of the SARS-CoV-2 virus, causing the COVID-19 disease, emerging data have described the existence of a syndrome involving a range of COVID-19-related symptoms with a duration beyond the acute phases of disease, typically referred to as long-COVID or post-COVID syndrome. Symptoms may be persisting and include generalized physical symptoms such as fatigue, joint and muscle pain, lowered physical capacity, tachycardia and dyspnea, as well as long-term anosmia, ageusia and alopecia (Xiong et al., 2020; Yelin et al., 2020; Huang et al., 2021; Mendelson et al., 2021). However, also, the long-COVID syndrome has been reported to cause a range of mental health symptoms in a substantial number of patients. These symptoms include mood swings (Mendelson et al., 2021), depressed mood, anxiety, insomnia (Xiong et al., 2020), and cognitive symptoms involving an impact on memory and attention (Yelin et al., 2021). While prevalence rates are hitherto sparsely reported, Xiong and co-workers (2020) reported symptoms of mental distress in 23 percent of COVID-19 survivors followed for three months after hospital discharge. In a six-month follow-up of hospitalized COVID-19 patients in China, sleeping difficulties were reported by 26 percent, and a brief screening item for depressive or anxiety symptoms was endorsed by 23 percent (Huang et al., 2021). Thus, description of mental health problems as part of a long-COVID syndrome are so far relatively brief and need to be further outlined, using structured diagnostics and longitudinal follow-up. Also, the whole framework of a possible pattern of persisting COVID-19-related symptoms is debated and requires further study. However, even despite the limited reporting so far, a substantial percentage of COVID-19 patients appear to endorse symptoms of poor mental health, several months after the acute phase of disease.

In general, substance use may represent an example of maladaptive coping strategies in individuals with poor mental health, such as traumatic events, and intuitively may also need to be considered in the context of long-term COVID-19 symptomatology. For example, alcohol consumption previously has been shown to occur as a means of coping with depressive symptoms, such as in patients with severe medical conditions (Moitra et al., 2020). In line with this, although the long-COVID syndrome presents a hitherto unseen symptomatology, it is reasonable to suspect that mental health components of the long-COVID syndrome may increase the risk of substance misuse as a way of coping with mental distress. Moreover, it can be hypothesized that this risk may be further enhanced by social isolation due to societal lock-down or other anti-COVID recommendations, sick-leave, worry about the health of others and oneself, and career or job uncertainty. In addition, it cannot be excluded that symptoms of pain in long-COVID may increase the risk of prescription opioid misuse. Hitherto, follow-up of addictive behaviors in the context of long-COVID syndrome has been very limited.

This calls for both clinical attention and research focusing on

addictive behaviors as possible consequences of a persisting, post-acute COVID-19 symptomatology. Such behaviors, potentially, may include both alcohol and drug use disorders, as well as behavioral addictions such as problem gambling or other addictive online behaviors. Clinical and epidemiological studies should address whether patients with remaining long-term post-acute symptoms of COVID-19 are more likely to initiate or increase addictive behaviors. In addition to structured research in the area, multi-disciplinary teams are needed in the assessment and follow-up of these patients. Among other medical specialties involved in the assessment and follow-up of COVID-19 disease, access to staff specialized in addictive behaviors may be of great importance.

## **Declaration of Competing Interest**

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